**Justin Renneke**

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**Experience**

**Esri** *Software Engineer Intern* May - August, 2017

* Designed and implemented a web app for Esri enterprise-level users to self-publish map feature web services
  + Created algorithms to measure load of each server in a deployment cluster and direct user’s publish to server under the least load
  + Federated user authentication via OAuth2.0 protocol
  + Original files backed up to AWS S3 and all publish events logged to database to allow easy redeployment in case of server failure
  + Designed for concurrent use in environment with 65,000+ users
* Prototyped an application to extract location names and geocoordinates along with associated metadata from unstructured text using natural language processing and regular expressions, then plot those locations and their metadata on a map via reverse-geocoding
* Designed a method to provide self-healing capability for Esri’s enterprise-level virtual private cloud deployments within Amazon Web Services that utilized serverless architecture via AWS Lambda and AWS SNS message system
* Created an exemplar product demo for interactive web-based map editing tool using responsive web design and object oriented JavaScript within Dojo framework

**Education**

**Bachelor of Science Computer Science** *University of Missouri, Columbia* August 2014 - December 2017

* GPA: 3.97/4.0
* Study Abroad in Italy: Circuit Theory at Roma Tre University in Summer 2016

**Skills**

* Languages: Python (Advanced), C (Intermediate), C# (Intermediate), JavaScript (Intermediate), Java (Intermediate), HTML (Intermediate), CSS (Intermediate), SQL (Basic), PHP (Basic), C++ (Basic)
* Tools and Libraries: Unity 3D, Flask, Natural Language Processing (NLTK/StanfordNLP), Machine Learning (Scikit-Learn/Pandas), Amazon Web Services, Git, Slack, RESTful web services, jQuery, Dojo, Bootstrap, Bash

**Projects**

* Capstone project in progress: Create a news media analysis application by web scraping hundreds of thousands of news articles, extracting features from that data using natural language processing and statistical analysis, perform topic clustering and sentiment analysis on the articles with machine learning, and visualize the results in a web application
* Developed a virtual reality-capable racing game in Unity 3D including enemy AI algorithms, physics-based interactions, and deployment to Oculus Rift. Won 1st place from 19 teams in University competition. Video: <https://www.youtube.com/watch?v=vSIMZFpJ0tU>
* Assisted in research project for a cloud computing defense system to defend against DDoS attacks against a software defined network by using defense by pretense methods to isolate and spoof attackers
* Various jupyter notebooks using big data analysis, visualization, and machine learning (see GitHub link below)

**Achievements**

* High school GPA of 3.97/4.0 and class rank of 3/180
* Composite SAT score above 99th percentile, 2014

**Links**

* LinkedIn: <https://www.linkedin.com/in/justin-renneke/>
* GitHub: <https://github.com/JustinRenneke>
* Personal professional website: [http://justinrenneke.com](http://justinrenneke.com/)